EITEL-McCULLOUGH, INC.

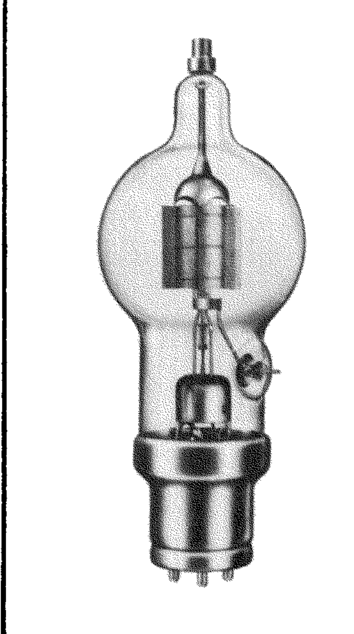
SAN BRUNO, CALIFORNIA

250TL

LOW-MU TRIODE

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MODULATOR
OSCILLATOR
AMPLIFIER



GENERAL CHARACTERISTICS

ELECTRICAL

Filament: Thoriated tungsten

Voltage	5.0	volts
Current	10.5	amperes
Amplification Factor (Average)	14	

Direct Interelectrode Capacitances (Average)

Grid-Plate	3.1	$\mu\mu$f
Grid-Filament	3.7	$\mu\mu$f
Plate-Filament	0.7	$\mu\mu$f
Transconductance (I_b=350 ma., E_b=3000, e_c=−130)	2650	μmhos
Frequency for Maximum Ratings	40	mc

MECHANICAL

Base	4 pin, No. 5001B	
Basing	RMA type 2N	

Maximum Overall Dimensions:

Length	10.125	inches
Diameter	3.813	inches
Net weight	12	ounces
Shipping weight (Average)	2.25	pounds

AUDIO FREQUENCY POWER AMPLIFIER AND MODULATOR

Class B

	Typical Operation—2 Tubes			Max. Rating
D-C Plate Voltage	1500	2000	3000	3000 volts
Max.-Signal D-C Plate Current, per tube*	•	•	•	350 ma.
Plate Dissipation, per tube*	•	•	•	250 watts
D-C Grid Voltage (approx.)	−40	−80	−175	volts
Peak A-F Grid Input Voltage	770	800	840	volts
Zero-Signal D-C Plate Current	200	150	100	ma.
Max.-Signal D-C Plate Current	700	650	500	ma.
Max.-Signal Driving Power (approx.)	32	28	17	watts
Effective Load, Plate-to-Plate	3700	6150	13000	ohms
Max.-Signal Plate Power Output	580	800	1000	watts

*Averaged over any sinusoidal audio frequency cycle.

RADIO FREQUENCY POWER AMPLIFIER AND OSCILLATOR

Class-C *Telegraphy
(Key down conditions without modulation)

	Typical Operation—1 Tube			Max. Rating
D-C Plate Voltage	2000	3000	4000	4000 volts
D-C Plate Current	350	335	310	350 ma.
D-C Grid Current	45	45	40	50 ma.
D-C Grid Voltage	−200	−350	−500	volts
Plate Power Output	455	750	1000	watts
Plate Input	700	1000	1250	watts
Plate Dissipation	245	250	250	250 watts
Peak R. F. Grid Input Voltage, (approx.)	575	720	900	volts
Driving Power, (approx.)	22	29	33	watts

*The above figures show actual measured tube performance, and do not allow for variations in circuit losses.



GRID VOLTAGE—VOLTS

-500 -400 -300 -200 -100 0 100 200 300 400 500 600 700

PLATE VOLTAGE—VOLTS

0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000

GRID CURRENT—AMPERES

.400 .350 .300 .250 .200 .150 .100 .050 .025 .010 .000 -.025

.010 .010 .000 -.025

PLATE CURRENT AMPERES

0 .100 .200 4.00 .600 .800 1.00 1.20 1.40 1.60 1.80 2.00

EIMAC 250TL
CONSTANT CURRENT
CHARACTERISTICS

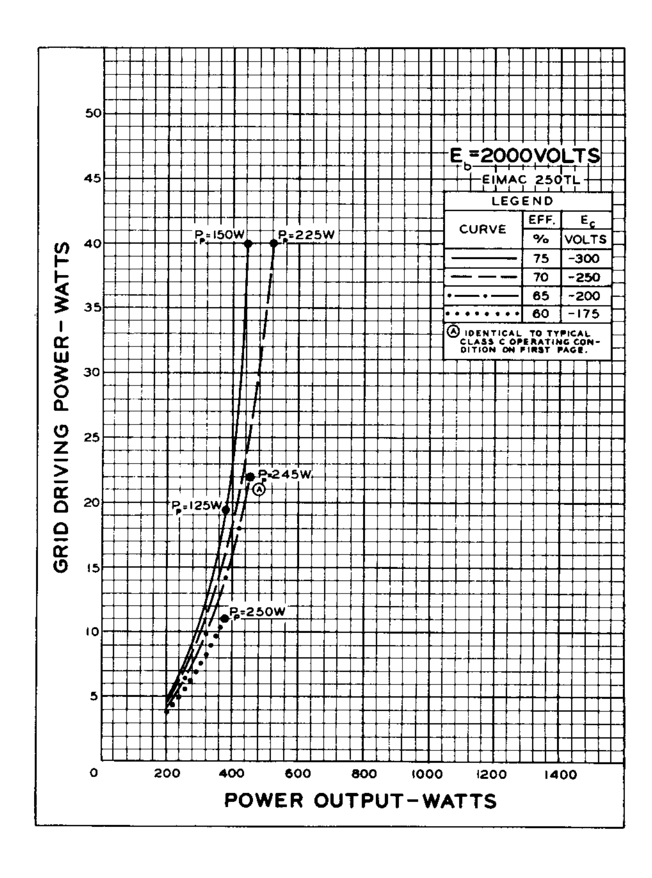
DRIVING POWER vs. POWER OUTPUT

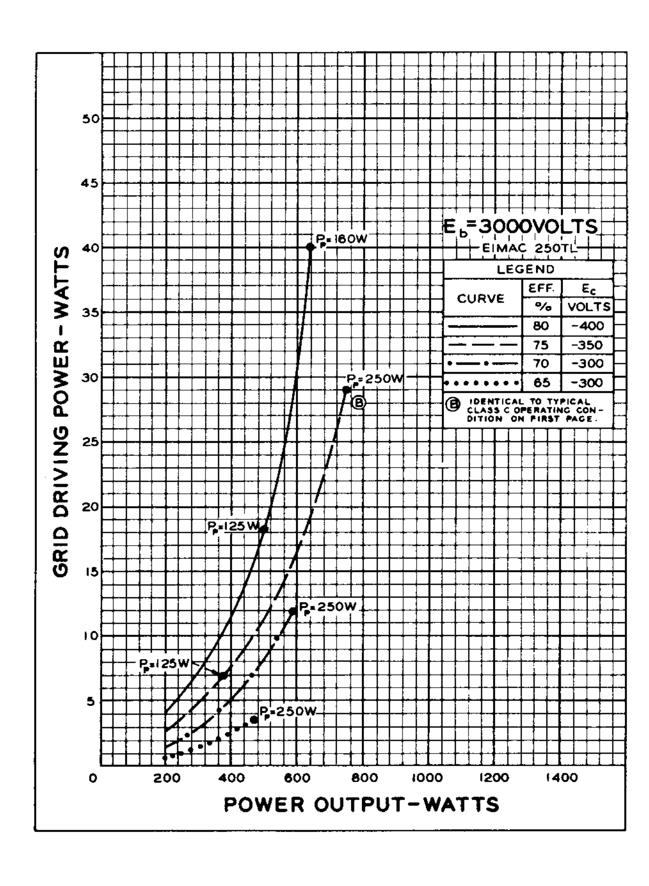
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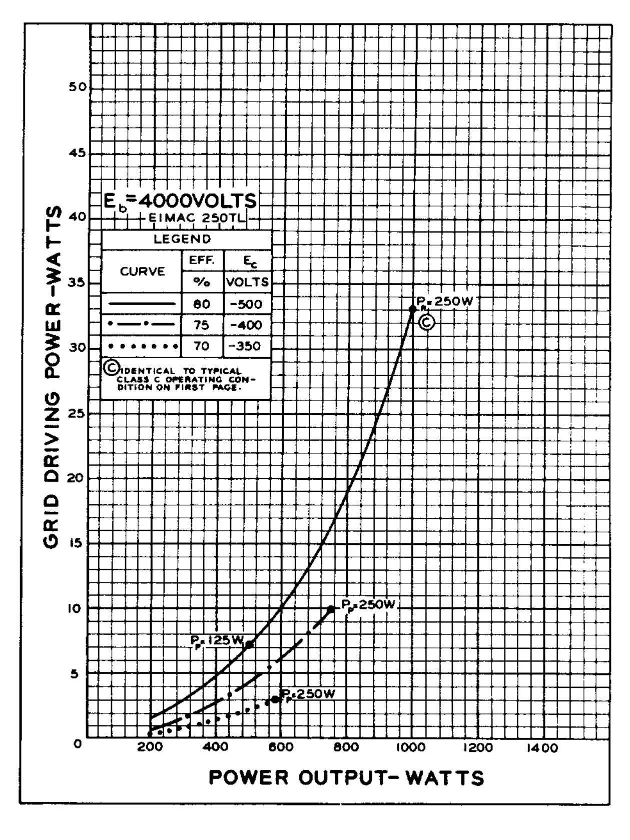
The three charts on this page show the relationship of plate efficiency, power output and grid driving power at plate voltages of 2000, 3000 and 4000 volts. These charts show combined grid and bias losses only. The driving power and power output figures do not include circuit losses. The plate dissipation in watts is indicated by Pp.

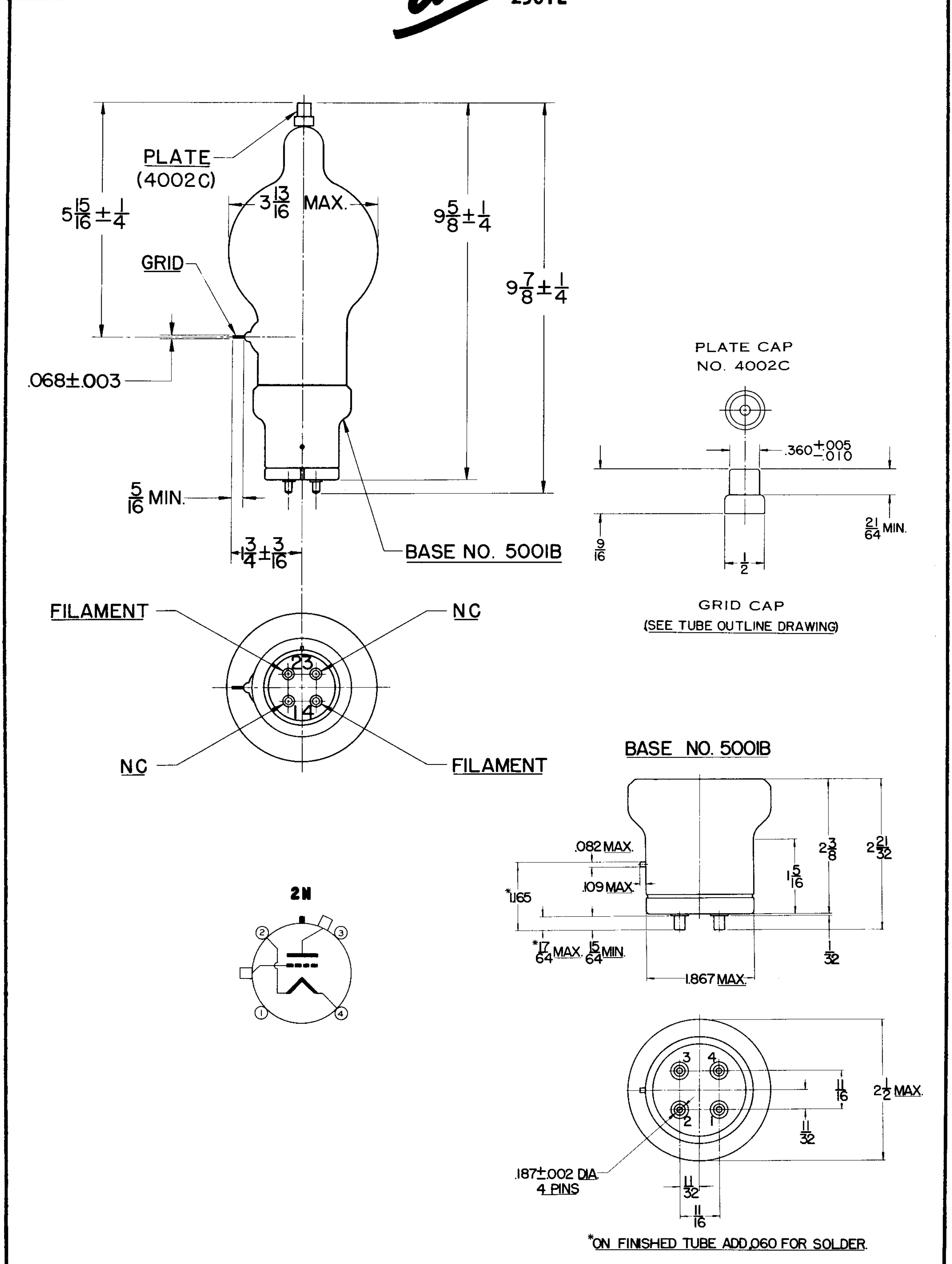
Points A, B, and C are identical to the typical Class C operating conditions shown on the first page under 2000, 3000, and 4000 volts respectively.

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Eimac
250TL
PLATE
(4002C)
$5\frac{15}{16} \pm \frac{1}{4}$
$3\frac{13}{16}$ MAX.
$9\frac{5}{8} \pm \frac{1}{4}$
$9\frac{7}{8} \pm \frac{1}{4}$
GRID
.068±.003
$\frac{5}{16}$ MIN.
$1\frac{3}{4} \pm \frac{3}{16}$
BASE NO. 5001B
PLATE CAP
NO. 4002C
.360 +.005 −.010
$\frac{21}{64}$ MIN.
$\frac{9}{16}$
$\frac{1}{2}$
GRID CAP
(SEE TUBE OUTLINE DRAWING)
FILAMENT
NC
NC
FILAMENT
BASE NO. 5001B
.082 MAX.
.109 MAX.
*1.165
$1\frac{5}{16}$
$2\frac{3}{8}$
$2\frac{21}{32}$
*$\frac{17}{64}$ MAX.
$\frac{15}{64}$ MIN.
$\frac{1}{32}$
1.867 MAX.
2N
$2\frac{1}{2}$ MAX.
$\frac{11}{16}$
$\frac{11}{32}$
.187±.002 DIA.
4 PINS
*ON FINISHED TUBE ADD .060 FOR SOLDER.
1-G4-21959